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ABSTRACT

The objectives of the workshop were to discuss the need for staff development in African universities, explore various means to improve teaching and learning, prepare an outline to set up centers in universities to cater to the needs of staff development, and outline a basic approach for establishing a continental committee to coordinate and reinforce center activities. Four general sessions took place and were concerned with: evaluation of university/teaching/learning; role of distance teaching; curriculum for staff development; and institutionalization of staff development programs. This document concludes with a background paper for the workshop, titled "Toward Improving Teaching Learning Strategy" which outlines four components of a teaching strategy (planning, presenting, involving the students, and evaluating students) and four components of learning (attending to the teacher, assimilating, storing, and recalling). Includes eight references. (JDD)

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A Report on the International Workshop

on

Strategies for Improving Teaching and Learning in Universities of Africa

(Nairobi : September 13 - 21, 1982)

Prof O. S. Dewal

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A Report on the International Workshop

ON

STRATEGIES FOR IMPROVING TEACHING AND LEARNING IN UNIVERSITIES OF AFRICA

(Nairobi : September 13-21, 1982)

PROF. O.S.DEWAL

Regional College of Education

AJMER

STRATEGIES FOR IMPROVING TEACHING AND LEARNING IN UNIVERSITIES OF AFRICA

(Nairobi : September 13-21, 1982)

The "International Workshop on Strategies for Improving Teaching and Learning in Universities of Africa" was held in Nairobi (Kenya) from September 13-21, 1982. The workshop was sponsored by the German Foundation for International Development (DSE Bonn) and the Kenyatta University College, Nairobi. I was invited to act as a Resource Person in the Workshop.

The objectives were to

- discuss the need of staff development in the African Universities;
- explore various means to improve teaching and learning;
- prepare an outline to set up centres in Universities to cater to the needs of staff development; and
- outline a basic approach to establish a continental coordination committee to coordinate and reinforce activities of the centres.

The workshop adopted what is called as the Metaplan-Method" to plan and oganize the workshop. This strategy was also tried out earlier in Hagen in December, 1981. The organizers got in touch with the members well before the commencement of the workshop and constantly sought their views in preparing "schedule of work". Members were also asked to prioriti[illegible] various activities to be taken up during the works[illegible]p.

Between Hegan round table conference December'80 and Nairobi Workshop September'81, the organizers used the Delphi techniques to identify and prioritize items for daily discussions.

The workshop was conducted through the Steering Committee, the Plenary Group and the Working Groups. The Steering Committee's task was to propose agenda for plenary and Working Groups. One of the members of the Steering Committee always presided over the plenary meeting. His task was (a) to identify/elaborate the main theme for the plenary and (b) to find out tasks for the Working Groups. The task for the plenary meeting was to discuss and integrate the group reports. The same chairperson had the responsiblity of moderating discussion in plenary meetings. This method worked very well. It made each delegate participate actively at every level i.e. plenary as well as working group levels.

There were four general sessions on:

Evaluation of university teaching/learning.

Role of distance teaching.

Curriculum for staff development.

Institutionalization of staff development programmes.

After the general meeting, the Workshop participants broke into groups and met again in the plenary to integrate proposals.

Evaluation of University Teaching/Learning

i) Universities lead an ivory tower existence. It is high time that they participate in myriad societal tasks. Universities should participate in developmental tasks. University education should relate education to the national's aspirations and emergent needs.

ii) It was emphasized that every nation was putting in a lot of financial inputs into universities. The outputs however did not match inputs. Hence there was a need to improve and galvanize the system in such a way that universities outputs equalled nation's expectations.

iii) In almost all universities the focus is on teaching. There were provocative arguments that teaching contributes little towards student achievement. Students achievement is largely

the outcome of factors within the student and factors relating to learning climate/ situation. Institutions can help students to learn more and quicker by providing them self study materials, and managing and reinforcing their learning environment. Thus there is a need to develop Learning Resource Centres.

iv) The major thrust should be to evolve learner-oriented management. In doing so, the focus should be on vaiables which improve learning by creating environment which facilitates learning. It should include appropriate changes in time table, change in curriculum design of interactive learning patterns, use of media other than print and use of learning resource centres.

v) It was suggested that improvement of teaching/ learning in universities should include research, Hence efforts should be made to improve research competencies of university teachers.

Attemps should be made to see that teachers

- manage research projects.
- supervise research effectively and
- help students in plan research projects.

Universities should act as consultancy centres. At present few universities are prepared for this rule. Attempts should be made to see that universities develop as consultancy centres.

Role of Distance Teaching

Distance teaching is an alternative mode to face to face interaction. It has advantages over conventional teaching campus. It is cost effective, it doesn't disturb the learner from his place of work, it is flexible in terms of time and place, it gives a sense of independence to the learner and it can cater to a large number of students.

. Curriculum for staff development

The curriculum for staff development programmes should include:

- role of university education in the context of national development.
- process of communication and factors facilitating it
- teaching techniques models strengths and weaknesses
- interaction : its importance and techniques to improve.
- role of Media - How to use and integrate media.
- techniques of developing media software.
- techniques of developing self-instructional materials.

- aspects of evaluation : techniques of constructing test items.
- steps in course construction

Curriculum could be transacted through

- exchange of ideas/experiences through seminars, meetings, symposia and workshops.
- short-term training programmes, study, visits.
- self-learning at resource centres
- offering problem specific consultancy, and project work.

Institutionalization

It was agreed that each university in Africa should set up a centre to improve teaching learning. It should have basic minimal facilities in term of space, equipment and manpower.

It was also agreed that a coordination committee be set up at the continent level to improve teaching learning in universities.

Home Tasks for Delegates

It was resolved that delegates at this conference should report to his/her university about the proceedings of this workshop, especially on the need and suggested ways of improving teaching and learning in the university.

Facilities of the Centre

The following facilities should be available at the centre:

- Hardware : - Projectors (film, slide, overhead), video recording systems for self-analysis feedback and microteaching, chalkboard, flip charts, cassette tapes, 35mm cameras, etc.
- reprographic material : felt pens, drawing paper, transparecies, duplication machines - spirit and ink, and raw materials for improvisation, audio-tapes, etc.
- Space : a model classroom, display of materials and secretariat space, darkroom for projecting etc.
- Storage room for safe keep of hadware and servicing of machines.

Range of facilities however will depend on the resources available at each institution, and the range of functions conducted by the centre.

Personal requirments

The range and number of personnel required for running the centre will depend partly on the facilities and resources available at the institution, and partly on the type of services offered by the centre. At the minimum one person at the teaching level, should be incharge of the centre. Other personnel drawn from academic staff at the institution can be involved to provide professional expertise in their respective areas

of specialization. Other professional input can be drawn from experts from institutions outside the university whose fields of specialization are relevant to the particular need at the time. As the centre develops, technical personnel will be required to assist in operation and maintenance of equipment, and production of materials.

Work at the Continental level:

It was resolved that a coordinating committee should be constituted to assist in coordinating implimentation of various continental strategies as recommended at this workshop.

The operational centre of the coordinating committee should be made known to the various collaborating universities to facilitate coordination of activities and information flow, among the centres.

The role of the Coordination committee will be:

- to receive from national centres and disseminate reports, information, ideas, etc. to all collaborating improving learning centres in African universities through a newsletter/journal.
- to act as an editorial board for the newsletter/journal.
- to establish a clearing house for information, materials and resources related to the improvement of teaching and learning in Africa universities.

- Start working with what is available and possible and gradually move into bigger tasks as more support for the centre is given from cooperating colleagues and the institution.

The objectives of the centre should support the objectives of the university with respect to:

- improving processes of teaching and learning.
- conducting research in teaching and learning.
- providing consultancy.
- developing self instructional material.

Strurcture and functions of the Centre

The structure and functioning of the centre should reflect the range of areas in which improvement of teaching and learning could be implimented. Although the range could cover many areas, each institutional centre should identify its own priorities and act on what is possible considering resource limitations. However, an extensive list of tasks areas may be identified to facilitate further thinking and planning for action. The organisational chart as suggested and developed in the seminar is at appendix B.

Attempts towards setting up a national centre for improving university teaching and learning should start in the home institution by:-

a) carrying out a needs assessment

b) exploring formal and informal ways of sensitizing opinion to popularize the idea of improving teaching and learning in the university.

c) seeking institutional support for the idea from colleagues, head of the department, dean the academic board or any other powerful decision making organ of the university.

d) identifying short term and long term tasks which can be initiated as a move to improve teaching and learning at the university.

Setting up a National Centre;

Each university should work towards establishing a national or instituional centre to facilitate the processes of improving teaching and learning in the university.The following activities were recommended:

- Each delegate who takes on the responsibility of devloping the centre should carry out survey or prepare an inventory of available facilities, resources, in the institution.
- Where an educational resources centre or audio visual aid unit exist, it should be used to form the centre. The university library could also be used to initiate the idea of the centre.

- to plan, design and impliment regional or continental workshops.
- to conduct surveys of needs for input in developing relevant and appropriate programmes for the collaborating centres.
- to undertake/coordinate production activities for instructional materials which are needed by various centres but are too expensive or complex for each centre to produce on its own.

TOWARD IMPROVING TEACHING LEARNING STRATEGY *

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Contents

1. Prologue
2. The Teaching Learner Strategy
3. Components of the Teaching Learning Strategy
4. Can Teaching Ensure Learning?
5. Epilogue
6. References

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* Background paper for the International workshop on Strategies for improving Teaching Learning in University, Africa, organised at Kenyatta, University College, Nairobi September 13-21, 1892 in collaboration with German Foundation for International Development.

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PROLOGUE

All roads of staff development programmes must lead to more and better student performance. This objective can be substantially realized if teachers are dedicated, committed, have content (subject matter) mastery, and possess effective communication skills. Realizing that training programmes can generate or modify commitment, dedication and value systems marginally we are left with two variables viz. content mastery and communication abilities which need to be tackled through staff development programmes.

The first pre-requisite of good teaching is content or subject matter mastery. No amount of training in pedagogy would offset a teacher's content deficiency. But if content mastery is taken for ground, effective communication skills can improve teaching and enhance student learning to an appreciable extent.

The term teaching-learning strategy is a fuzzy one. It combines two words and consequently two actitivities; teaching and learning which are different but interelated Teaching is planned behaviours intended to induce learning (Moore 1973). It is done by an agent (or agents) outside the learner. However, teaching may or may not induce learning (Dewal 81).

Learning on the other hand is an activity done solely and entirely by the learner himself. It must result into modification of learner's behaviour or his way or looking things. It is the learner who organizes his learning and

then assimilates it . The evidence of learning comes through performance. The sussess of learning may or may not depend upon teaching.

While the game of learning is solely played by the learner there are some factors, that may increase or decrease, frustrate or facilitate, learning. To this extent the two activities are supportive. This supportive nature of teaching and learning processes has prompted me to use the term teaching-learning strategy. Personally I am convinced that an insight into the teaching practices and the learning process will tremendously help communication.

Planned instructions are imparted in two ways viz: by campus and by distance teaching. Restricting ourselves to campus teaching, we see various teaching methods/techniques like lecture, lecture followed by questions and answers; lecture supported by teaching aids and followed by questions answers, tutorials followed by lectures or vice versa; brain storming sessions seminars/symposia; buzz sessions, role playing etc.

These various teaching methods and technique have specific features and are used to achieve different educational objective. No one method is to be eulogized or denegrated. Lecture strategy is justified if one wants to initiate a new topic and wants to present a fund of information but it is irrelevant for objectives like developing 'application' capabilities or promoting 'Discovery' learning. Some generalized notions are lecture - discussions, method is good for social science

subjects, demonstration/investigatory approach good for teaching sciences and situational -structural approach for teaching foreign languages. There are very broad generalizations and therefore are not helpful.

COMPONENTS OF A TEACHING LEARNING STRATEGY

A teaching learning strategy has eight steps, four on teaching and four on learning side. A teacher during the teaching activities mainly performs four functions. He planes the lesson, presents it to the students involves them in active participation and evaluates their performance A learner on the other hand, attends to the teaching, and by using various mental processes, assimilates the teaching points. He then stores this assimilated knowledge and ultimately recalls it when asked.

Let us vizualise a typical teaching and learning situation and see how a teacher moves about. The first step in teaching in planning. A teacher plans his lesson, comes to the classroom and with (or without) written lesson Planning can be pre-designed or instentanous which is intentaneous extempre and made on the spot is not as effective as the Pre-designed one. Through given to structuring and sequiencing always pays dividents.

When a teacher plans his lessons he keeps (should keep) in view the initial cognitive behaviour of students. Students benefit most if teaching is based on their initial capabilities. A teacher should be clear about content to be taught.

The second point in planning is to spell out content in operational and behavioural terms (There is a great controversy and I do not want to be dragged in it (Dewal 1978). It is my point of view that it is good to put objectives in behavioural terms. It is also important to relate them with the macro objectives of the subject matter. This provides learners a background and perspective and help them to see the relevance and appropriateness of the content in the larger context.

The third issue in planning is to visualise what experiments, teaching aids/media are to be used in the classroom. A teacher should analysise different steps i.e activities he would undertake to teach the context. This calls for task analysis, sequencing and flow charting.

All these 4 aspects of planning student analysis, content analysis, media analysis, and activity analysis are assential pre-reuisites of good teaching.

The second step is presentation. More presentation of a teaching point in a staff necked way doesn't help. It then, becomes a monologue. For real communication one should temper presentation with wit and humour, and cloth weighty matters in motley garb, for incongruity ensures attention. Effective presentation demands that the teacher should build teaching points on the initial behaviours of students, should repeat and recapitulate to consolidate learning.

This brings me to a very important point that of sequencing. Although it is not a place to discuss various sequencing styles, suffice it to say, that depending upon

the nature of content and level of students, three types of styles are recommended.

Ruleg rules or generalizations or principles are given at the beginning; They are followed by examples(eg). Hence it has been called as rules style (Tabber et. al 1965) EGRUL examples are given first, then followed by rules, explanations, generalization. DPR the third sequencing style is given by Gilbert (1962). He says that any new task (learning activity) should be first demonstrated (D) to the student then the student should be prompted (P) to reproduce the task. After various such prompted reproductions the student should be asked to repeat the task on his own to demonstrate his mastery over the task learnt (R). Hence this style is called DPR because it is based on 'Demonstration - Prompt - Release sequence.

While presenting the teaching points, the teacher must be very careful about language. It should be simple, clear correct, and pitched at the learners level. The teacher should speak with due intonation and mudulations and with moderate gestures to enliven communication.

Seeking Participation

The third stage is to seek student participation. Inviting suggestions and question from students, promote participation. Sometimes participation comes in full measure. Sometimes it is weak. Participation has cultural aspects. In some societies equal participation is not

encouraged. In some, participation only takes a form of answering 'questions', in other participation is full, spontaneous and consistent. It often takes the form of questioning assumptions. Such participation calls for creation of an open and free learning climate. If the teacher is keen to develop this sort of participation in students, he should creafully create an open and accepting climate in the classroom. Threats, ridicule, derision stunt participative tendencies among learners. Such avarsive teachnique should be discouraged.

Evaluation

The fourth stage is evaluation. A good teacher must find out during his teaching period how far he has succeeded in conveying his message, how much has been the leakage seepage, and how much content has reached the other end.

It has been the practice of the most of university teachers that they ask blanket questions at the end of the lesson. This practice is not very effective. It is always better to make evaluation an integral part of instruction. Questions, specifically criterion referenced ones. may be asked during teaching itself.

The Learning Process

Although learning psychology is more than hundred years old, it does not full well know how learning takes places.

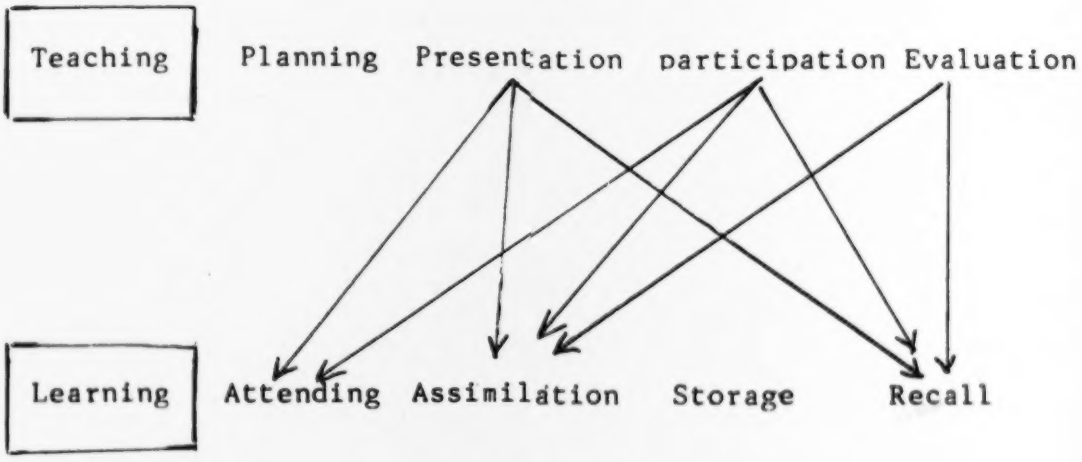
Some emphasis the importance of the external stimuli and reinforcement, some emphasis the role of the organism, his personality, his insights, his value system. Not going into the clkaims and counter claimes of behaviour, cognitive and phenomenological psychology, we concentrate on the major phases of the learning process which are rather non controversial.

The first step of the learning process is attending i.e., the learner attends to the stimuli (the teaching point) The probability of attending to the stimuli is directly proportional to learner's motivation.

The second step is assimilation. It is the stage when the learner digests and makes new knowledge a part of his cognitive behaviour. To assimilate new knowledge the learner resorts to various processes which piaget calls as accommodation and assimilation. It is well known that assimilation of knowledge is greatly facilitated if the knowledge is based on learners previous knowledge (initial experiences). Assimilated knowledge is then stored. (Storage phase).

The Recall of learnt knowledge takes the form of performance. Verbal on non-verbal Performance gives an evidence of how much and how well one has learnt. Recall depends upon memory, short or long term. It also depends upon practice and drill.

The following diagram gives linkages between various steps of teaching and learning:



keeping learning is sharp focus. let us now see what activities promote and facilitate attending assimilation and recall processes.

Attending: Attending will be faciliatated if we keep in view, while planning, students linguistic capabilities and initial cognitive competencies.

Presentation can be facilitated if it is full of wit and humour and pitched at learner's cognitive and linguistic level. The use of multimedia approach also facilitates attention.

Assimilation

Corsolidation and assimilation of learning is facilitated if new learning is based on every day experiences of the learner. Involvement of the learner greatly facilitates assimilation. When a student answers question or poses problems. he struggles to explore solutions. This helps assimilation.

CAN TEACHING ENSURE LEARNING

While discussing teaching learning strategy we ask a blunt and curt question. Can teaching alone ensure learning? The answer. is.not wholely but subtantially.

Success in learning depends upon many factors (Gagne' 1965 Carroll 1963. Bloom 1976). Some factors are external to the student, some are internal: some can be manipulated by the teacher, some can't.

It goes without saying that the motivation of the learner. his general level of intelligence, his aptitude and his value system are crucial to learning. But these factors can't be directly manipulated by the teacher.

There are other factors like time devoted to instruction and quality of instruction which are critically related to learning and they can be manipulated by the teacher also. We can expect better student performance if we increase learning time and improve quality of instruction.

It is our assumption that the following principles will improve instruction.

It is not only a cliche but a hard fact that none can teach us anything without our consent.

!) Intrinsic motivation is more lasting than the extrinsic one. A teacher should build up instructional situation on the instrinsic motivation. Proper structuring of content. effective presentation by the teacher and the success experiences gained by the learner. generate and sustain intrinsic motivation.

2) Knowledge of results acts as corrective feed back. This in turn improves learning. It is always advisable to tell students about the correctness and wrongness of their responses.

3) Students can assimilate new learning if it is built on their initial cognitive abilities. Teaching which does not take into account initial cognitive capabilities of students is not effective.

4) Recall becomes easy if students get more practice and drill. Over-learning ensures. correct and quick recall. Learning meaningful systactic churnks also helps recall.

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